

## BUILDING ENGINEERING REPORT (BER)

Building Name: Federal Building – 517 Gold Avenue SW

Building No.: NM0024ZZ

Location: Albuquerque, New Mexico

Number: 310.5 – Interior Finishes

Title: Remove and Replace Ceiling System at Floors 1, 2, 3, 4, 5, 7, 8 and Basement

### DETAILED COST ESTIMATE

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
Demolition				
Plaster Ceiling System	168000 (15,607.7)	SF (SM)	\$0.50	\$84,000
Acoustical Ceiling System	168000 (15,607.7)	SF (SM)	\$0.30	\$50,400
New Construction				
New Ceiling System	168000 (15,607.7)	SF (SM)	\$2.25	\$378,000
2 x 2 Tile with Grid				
Subtotal				\$512,400
Mark-Up – 15% Contingency				\$76,860
Mark-Up – 18% Overhead and Profit				\$92,232
N.M. Gross Receipts Tax at 5.8125%				\$39,612
Total E.C.C.				\$721,104
Total E.C.C. (rounded)				\$721,000

## BUILDING ENGINEERING REPORT (BER)

Building Name: Federal Building - 517 Gold Avenue SW  
Building No: NM0024ZZ  
Location: Albuquerque, New Mexico

WORK ITEM: Action required within 5 years X Action required within 5-20 years   

Number: 315.1

Title: Install Floor Leveling

Cost: FY 94: \$4,100,000 FY 98: \$5,586,000

### DESCRIPTION:

Floor slabs on the 1st through 8th floors have excessive deflections which are greater than code allowables. The deflections are visually apparent and distressing to the tenants. These deflections cause problems with demountable partitions not joining, filing cabinets and drawers not staying shut, and other nuisances. This is also attributing to plaster walls cracking at locations of reverse curvature in the floor slabs. It is recommended that the floor leveling be done throughout the 1st to 8th floors. The scope of work is divided into 3 parts. Work covered within this work item consists of existing wall demolition and removal of doors and door trim, removal and abatement of the asbestos floor tile, removal of the existing carpet tile, raising the floor electrical outlets and installing the floor leveling system. The new finishes for flooring and walls are addressed in Work Item 310.1. The tenant development is addressed in Work Item 440.1.

### JUSTIFICATION:

Currently there are a number of tenants who are planning to relocate to other buildings. The vacated floors present an opportunity to upgrade the floor quality so tenants have the perception of higher quality floors. For details see Strength Evaluation and Structural Analysis in Appendix D of the technical backup.

### ASSOCIATED WORK ITEMS:

Refer to Work Item No. 310.1 - Interior Finishes.  
Refer to Work Item No. 440.1 - Space, Improve and Conversion.  
Refer to Work Item No. 310.4 and 310.5 for ceilings.

# BUILDING ENGINEERING REPORT (BER)

Building Name: Federal Building – 517 Gold Avenue SW  
 Building No.: NM0024ZZ  
 Location: Albuquerque, New Mexico

Number: 315.1 – Structural

Title: Install Floor Leveling

## DETAILED COST ESTIMATE

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
<b>GENERAL REQUIREMENTS</b>				
Office Trailer	6.5	MO	\$206	\$1,339
Temporary Utilities	6.5	MO	\$750	\$4,875
Project Manager	13	WK	\$2,025	\$26,325
Superintendent	25	WK	\$1,725	\$43,125
Testing	1	LS	\$10,500	\$10,500
Barriers	1	LS	\$14,000	\$14,000
Permit/Bond/Insurance	1	LS	\$65,000	\$65,000
Cleanup	1	LS	\$14,100	\$14,100
<b>SITEWORK</b>				
Remove Existing Carpet & Vinyl Asbestos Tile	220000 (20,438.7)	SF (M2)	\$3	\$660,000
Remove Existing Partitions	230000 (21,367.7)	SF (M2)	\$1.50	\$345,000
<b>CONCRETE</b>				
Prepare Existing Concrete Slab	220000 (20,438.7)	SF (M2)	\$0.50	\$110,000
Install Bonding Compound	220000 (20,438.7)	EA (M2)	\$1.25	\$275,000
Place New Topping on Slab	220000 (20,438.7)	SF (M2)	\$4	\$880,000
<b>ELECTRICAL</b>				
Raising of Existing Outlets	220000 (20,438.7)	SF (M2)	\$2	\$440,000
Subtotal				\$2,889,264
Mark-Up – 15% Contingency				\$433,390
Mark-Up – 18% Overhead and Profit				\$520,068
N.M. Gross Receipts Tax at 5.8125%				\$223,358
Total E.C.C.				\$4,066,079
Total E.C.C. (rounded)				\$4,100,000

## BUILDING ENGINEERING REPORT (BER)

Building Name: Federal Building - 517 Gold Avenue SW  
Building No: NM0024ZZ  
Location: Albuquerque, New Mexico

WORK ITEM: Action required within 5 years X Action required within 5-20 years \_\_\_\_

Number: 315.2

Title: Upgrade Column Capitals to Design Live Load

Cost: FY 94: \$924,000

FY 98: \$1,259,000

### DESCRIPTION:

Floor slabs on the 5th thru 8th floors currently do not meet the original design live load capacity. The limiting factor is the capacity on the floor of the column locations. The slab drop panel at the column does not have adequate capacity to resist punching shear.

In order to obtain the design live load capacity of 80 PSF, new column capitals or jackets at the existing columns will be required. In order to install the column jackets a 10 to 15 foot clear area around each column will be required, and will include wall, ceiling, mechanical and electrical demolition. This upgrade is required if floors are to be leveled (WI 315.1). See Work Items 310.4 and 310.5 for related ceiling work.

### JUSTIFICATION:

Floor load capacity does not meet UBC 88 Code minimum live load on the original design load. Floor live load capacity should be increased for life safety of the tenants.

For details see Strength Evaluation and Structural Analysis in Appendix D of the technical backup.

### ASSOCIATED WORK ITEMS:

Refer to Work Item No. 310.4 - Remove and Replace Ceiling System at Sixth Floor.  
Refer to Work Item No. 310.5 - Replace Ceiling System at Floors 1,2,3,4,5,7,8 and Basement.

# BUILDING ENGINEERING REPORT (BER)

Building Name: Federal Building – 517 Gold Avenue SW  
 Building No.: NM0024ZZ  
 Location: Albuquerque, New Mexico

Number: 315.2

Title: Upgrade Column Capitals to Design Live Load

## DETAILED COST ESTIMATE

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
<b>GENERAL REQUIREMENTS</b>				
Office Trailer	6	MO	\$206	\$1,236
Temporary Utilities	6	MO	\$750	\$4,500
Project Manager	16	WK	\$2,025	\$32,400
Superintendent	24	WK	\$1,725	\$41,400
Testing	1	LS	\$20,000	\$20,000
Barriers	1	LS	\$15,000	\$15,000
Permit/Bond/Insurance	1	LS	\$40,000	\$40,000
Cleanup	1	LS	\$20,000	\$20,000
<b>SITEWORK</b>				
Remove Existing Ceilings	10900 (1,012.6)	SF (SM)	\$1	\$10,900
Remove Existing Partitions	16000 (1,486.4)	SF (SM)	\$1.50	\$24,000
Protection of Existing Finishes	1	EA	\$150,000	\$150,000
<b>CONCRETE</b>				
Roughen Existing Concrete Columns	1530 (142.1)	SF (SM)	\$10	\$15,300
Drill and Dowell into Existing Columns	872	EA	\$25	\$21,800
Form Column Capitals	4800 (445.9)	SF (SM)	\$10	\$48,000
Column Capital Reinforcement	13.5 (12,247.0)	T (Kg)	\$1,500.00	\$20,250
Place Concrete in Column Capitals	109 (83.3)	CY (M3)	\$200	\$21,800
Epoxy Injection	1300 (120.8)	SF (SM)	\$15	\$19,500

## BUILDING ENGINEERING REPORT (BER)

Building Name: Federal Building – 517 Gold Avenue SW  
Building No.: NM0024ZZ  
Location: Albuquerque, New Mexico

Number: 315.2

Title: Upgrade Column Capitals to Design Live Load

### DETAILED COST ESTIMATE

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
<b>FINISHES</b>				
Install Ceilings	10900 (1,012.6)	SF (SM)	\$1.80	\$19,620
Install Partitions	16000 (1,486.4)	SF (SM)	\$4.75	\$76,000
<b>MECHANICAL</b>				
Remove and Replace Existing	10900 (1,012.6)	SF (SM)	\$3	\$32,700
<b>ELECTRICAL</b>				
Remove and Replace Existing	10900 (1,012.6)	SF (SM)	\$2	\$21,800
Subtotal				\$656,206
Mark-Up – 15% Contingency				\$98,431
Mark-Up – 18% Overhead and Profit				\$118,117
N.M. Gross Receipts Tax at 5.8125%				\$50,729
Total E.C.C.				\$923,483
Total E.C.C. (rounded)				\$924,000

## BUILDING ENGINEERING REPORT (BER)

Building Name: Federal Building - 517 Gold Avenue SW  
Building No: NM0024ZZ  
Location: Albuquerque, New Mexico

WORK ITEM: Action required within 5 years X Action required within 5-20 years \_\_\_\_

Number: 410.1 - Electrical

Title: Replace and Upgrade 480/277V and 208/120V Electrical Distribution Systems.

Cost: FY 94: \$430,000

FY 98: \$584,000

### DESCRIPTION:

The existing electrical secondary distribution system consisting of the 480/277V bus ducts, 480/277V lighting panelboards, 480-208/120V step-down transformers, and the 208/120V power panels are undersized due to increased load demands, branch circuits added, and type of added loads (i.e. non-linear loads).

The existing Federal Pacific equipment (bus ducts, panelboards, and transformers) is obsolete. Manufacturer support for the Federal Pacific equipment is no longer available.

Working clearances in some of the three electrical/communication rooms located on each of the eight office floors are inadequate to meet the National Electrical Code (NEC).

The existing switchgear was replaced in 1986 in connection with the replacement of the PCB transformers (GSA Project No. 85056). The existing switchgear will accept the upgrade of the Federal Pacific equipment.

It is recommended that the secondary distribution system be upgraded by replacing the existing panelboards and bus ducts, and adding panelboards as necessary. The existing transformers need to be replaced and sized to meet the current and anticipated future load requirements. The new transformers will be k-rated to accommodate existing and future non-linear load requirements.

### JUSTIFICATION:

Replacing the existing secondary distribution system would solve the existing overloading problem which causes tripping and/or overheating of branch circuits that result in failures and downtime to building tenants.

## BUILDING ENGINEERING REPORT (BER)

Building Name: Federal Building - 517 Gold Avenue SW  
Building No: NM0024ZZ  
Location: Albuquerque, New Mexico

WORK ITEM: Action required within 5 years X      Action required within 5-20  
years \_\_\_\_

Number: 410.1 - Electrical

### JUSTIFICATION (continued):

Replacement of obsolete equipment would eliminate potential extended power outages, due to the unavailability of replacement parts.

While replacing the equipment in the electrical/communication rooms working clearance problems that now exist could be eliminated by proper layout of the new equipment, allowing the electrical rooms to comply with the National Electrical Code (NEC).

### ASSOCIATED WORK ITEMS:

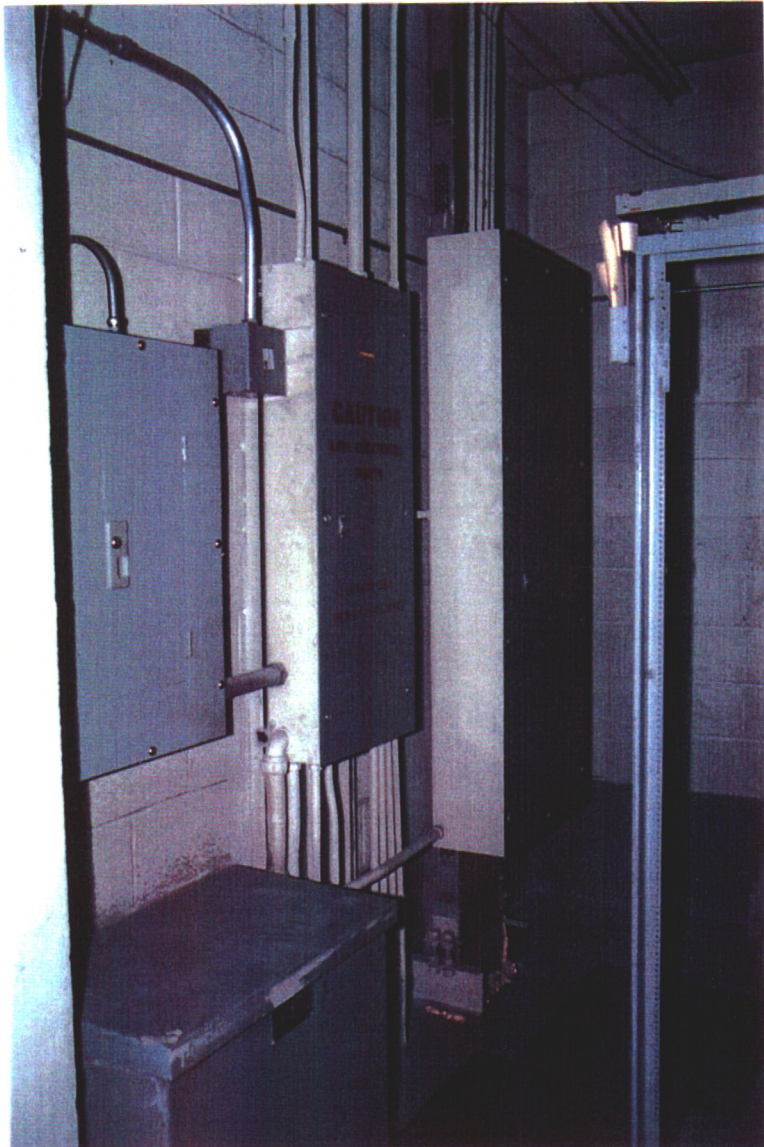
Replace branch circuit wiring Work Item No. 410.2.



## BUILDING ENGINEERING REPORT

Building Name: Federal Building - 517 Gold Avenue SW  
Building No.: NM0024ZZ  
Location: Albuquerque, New Mexico

Number: 410.1 Electrical  
Title: Replace and Upgrade 480/277V and 208/120V Electrical Distribution Systems



Existing Electrical Equipment Room (Typical)

## **BUILDING ENGINEERING REPORT**

Building Name: Federal Building - 517 Gold Avenue SW  
Building No.: NM0024ZZ  
Location: Albuquerque, New Mexico

Number: 410.1 Electrical  
Title: Replace and Upgrade 480/277V and 208/120V Electrical Distribution Systems



**Existing Electrical Equipment Room (Typical)**